COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF ENVIRONMENTAL RESOURCES

PROPOSED SIP REVISION FOR
MEETING THE REASONABLE FURTHER
PROGRESS REQUIREMENT UNDER THE
CLEAN AIR ACT IN THE PHILADELPHIA
SEVERE NONATTAINMENT AREA
NOVEMBER 12, 1994

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PROPOSED SIP REVISION FOR MEETING THE REASONABLE FURTHER PROGRESS REQUIREMENT UNDER THE CLEAN AIR ACT IN THE PHILADELPHIA SEVERE NONATTAINMENT AREA

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EXECUTIVE SUMMARY

High ozone levels pose a significant health threat. Volatile organic compounds (VOCs) react with sunlight and other photochemically reactive compounds, principally nitrogen oxides (NOx) to produce ozone. The Clean Air Act Amendments of 1990 (CAAA) require states to design strategies for the reduction of ozone and its precursors in order to meet the health-based federal standards for ground level ozone.

The Commonwealth is required to submit two State Implementation Plan revisions for the Philadelphia ozone nonattainment area (Bucks, Chester, Delaware, Montgomery and Philadelphia counties) by November 15, 1994.

Areas that fail to submit or carry out an approvable plan are subject to economic sanctions.

These SIP revisions are:

1. A post-1996 Rate of Progress plan for the reduction from 1990 levels of VOCs by 3 percent annually for the 9 years between the years 1997 and 2005 and the offset of projected growth.
2. An attainment plan to ensure the area will attain the health-based ozone standard by 2005.

A total of 639 tons per summer day of VOCs were emitted by manmade sources in 1990. The manmade source categories of this ozone precursor in 1990 are shown in Figure I. The CAAA require adjustment of the 1990 baseline which is shown in Figure II. Total adjusted emissions are 594 tpsd. It is from this level that reductions must be achieved.

POST-1996 RATE OF PROGRESS PLAN

The CAAA also require that a 15 percent reduction in VOCs from 1990 levels will be achieved by 1996. Therefore, emissions from volatile organic compounds must be reduced from adjusted 1990 levels by a total of 42 percent:

- 15 percent from 1990 to 1996
- 27 percent between 1997-2005 (3 percent annually for 9 years)

The 2005 target level is therefore:

594 tpsd	1990 adjusted level
-249 tpsd	Required 42 percent reduction
343 tpsd	**2005 target level**

Emission increases projected from economic growth between 1990 and 2005 must also be offset. Growth factors were derived and applied in accordance with EPA guidance. The 2005 Projected Uncontrolled Inventory includes:

639 tpsd	1990 emissions level
+ 61 tpsd	Growth from 1990 to 2005
700 tpsd	**2005 Projected Uncontrolled Inventory**

REQUIRED REDUCTIONS

A reduction in VOC emissions from 1990 projected levels of 357 tpsd will be necessary to meet the CAAA requirements. This includes:

700 tpsd	2005 Projected Uncontrolled Inventory
-343 tpsd	2005 target level
357 tpsd	**Total reduction needed**

REDUCTIONS ACHIEVED

State and local control measures and federal control measures which have been adopted or are pending will lead to emission reductions of 400 tpsd, which meets all reduction and contingency measure requirements.

In achieving these reductions, NOx reductions projected between 1990 and 2005 were substituted for a portion of VOC reductions at a ratio in accordance with EPA guidance, which allows percent reductions in NOx to be used as equivalent percent reductions in VOCs. A "VOC equivalent" ton of 1.40 is therefore substituted for every actual ton of NOx reduced.

Of the 400 tpsd in projected emission reductions, 202 tpsd were obtained from VOC reduction measures and 198 VOC equivalent tpsd from NOx reduction measures (142 tpsd in actual NOx reductions).

Table I summarizes the calculations made.

ATTAINMENT PLAN

In addition to the above reductions, the CAAA also require states to adopt any further control measures necessary to demonstrate that health-based standards will be met on schedule.

Because ozone is not emitted directly, complex photochemical models are necessary to predict ozone levels from emission levels and meteorological conditions. These models take into account ozone and ozone precursors coming into the Philadelphia nonattainment area as well as how Southeast Pennsylvania affects the ability of other areas in the Congressionally-established Northeast Ozone Transport Region to attain health standards.

The modeling effort for the Philadelphia nonattainment area has not been completed. However, preliminary results indicate that the specific strategies mandated by the CAAA for the Philadelphia area will not be sufficient to meet health standards. Figure III shows that emission levels projected to 2005 after all mandated control measures are applied still predict ozone nonattainment in areas of the Northeast, including the Philadelphia area.

Reductions in both VOC and NOx will be needed to attain ozone health standards; to be most effective, reductions should come from all sectors of society producing emissions.

Table I. Summary of Calculations

Type of Emissions	tpsd
1990 Baseline inventory	639.31
Adjustments	-45.81
1990 Adjusted inventory	593.50
42% Reduction	-249.27
RACT "fix_ups"	-0.84
2005 Target Level	**343.39**
1990 Baseline inventory	639.31
1990 to 2005 Growth	60.69
2005 Projected	700.00
2005 Target Level	-343.39
Target Reductions	**356.61**
Expected NOx Reductions	141.95
Conversion Factor	1.40
NOx Substitution	198.35
Actual VOC Reductions	201.84
Total Reductions	**400.19**

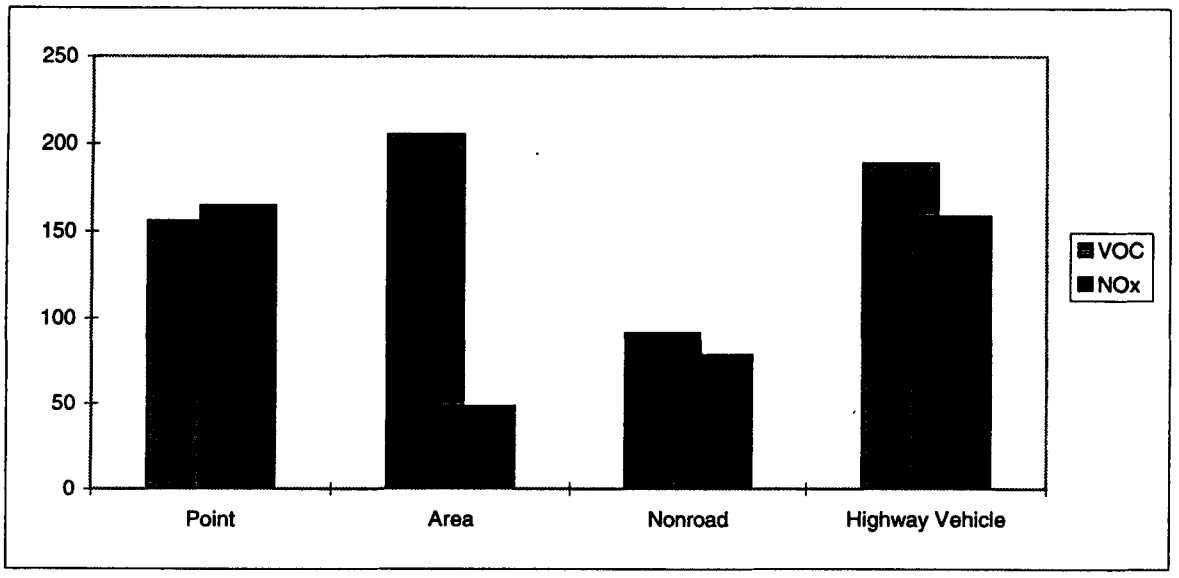


Figure I. The 1990 Baseline VOC and NOx Emissions

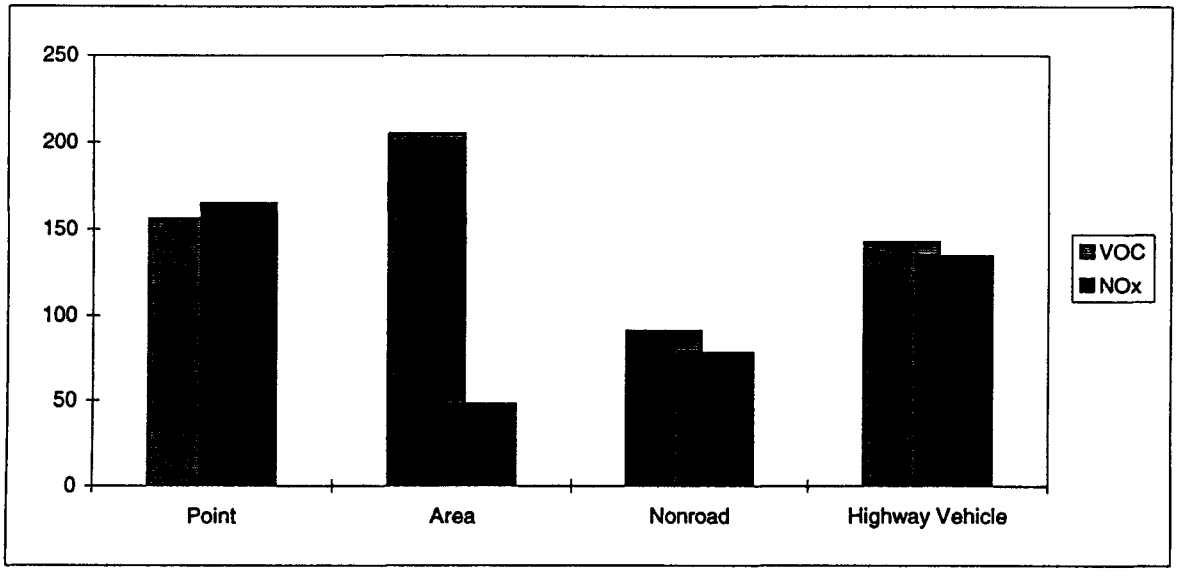


Figure II. The 1990 Adjusted VOC and NOx Emissions

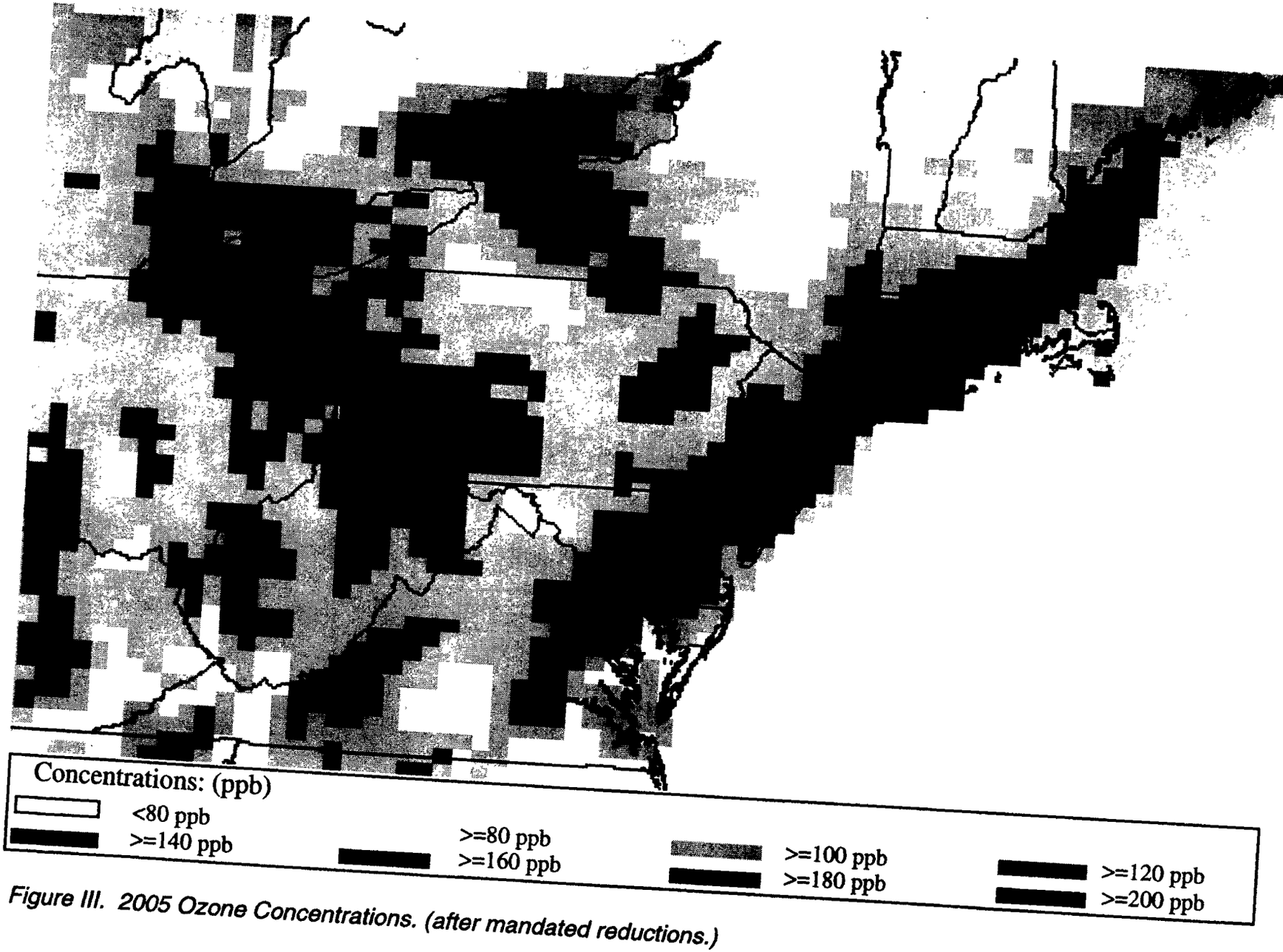


Figure III. 2005 Ozone Concentrations. (after mandated reductions.)

PART A: OVERVIEW

1.0 THE OZONE PROBLEM AND THE CLEAN AIR ACT AMENDMENTS OF 1990

The Clean Air Act Amendments (CAAA) of 1990 established a health-based National Ambient Air Quality Standard for ground-level ozone and set forth the process and schedules by which all areas in the country strive to meet the standard. This report represents the current status of Pennsylvania's progress in meeting the requirements for the Pennsylvania portion of the Philadelphia ozone nonattainment area (Bucks, Chester, Delaware, Montgomery and Philadelphia) for the period 1996 - 2005.

1.1 THE OZONE PROBLEM

Ground-level ozone is an air pollutant which causes eye and throat irritation, respiratory system congestion, chest pains, nausea, labored breathing and related respiratory problems. Ground-level ozone is not discharged directly but is formed in the air by a series of complex chemical reactions in sunlight. (Ground-level ozone should not be confused with stratospheric ozone which is beneficial and needed in the upper levels of the atmosphere to block harmful solar radiation.)

The chemicals involved, called ozone precursors, are primarily volatile organic compounds (VOCs), nitrogen oxides (NOx) and carbon monoxide (CO). Air quality is more likely to exceed the ozone standard during the summer because sunny, humid, stagnant conditions are more prevalent. These conditions promote the formation of ground-level ozone.

Ozone and its precursors do not respect state boundaries. Pennsylvania receives air pollution from its upwind neighbors and sends Commonwealth-generated pollution downwind to other states.

Consequently, Congress included Pennsylvania in the Northeast Ozone Transport Region and established a Commission to recommend regionwide emission reduction measures. In addition to ensuring clean air for their own citizens, all states in the Northeast have the responsibility to bring the entire region into attainment of health standards.

Failure to submit air quality plans according to the timetables described in the CAAA and to achieve clean air by the deadlines will result in federal sanctions which include:

- restrictions on industrial development (imposition of 2:1 offsets); and

- withholding of federal transportation funds (totaling over 1 billion dollars annually).

1.1.1 CLASSIFICATION OF NONATTAINMENT AREAS

The CAAA instituted a process which resulted in the 1991 designation of counties or consolidated metropolitan statistical areas (CMSAs) as attainment (meeting ozone health standards) or nonattainment (not meeting ozone health standards). It also created a special classification system of ozone nonattainment areas depending on the severity of the ozone pollution. Designation and classification was determined by direct monitoring of the ozone concentrations in the area during the three-year period from 1987 through 1989.

More polluted areas are given additional time by the CAAA to meet health standards, but will need more stringent measures, many specifically mandated by the law. In Pennsylvania, several measures also apply either statewide or in certain areas due to the inclusion of the Commonwealth in the Northeast Ozone Transport Region.

Figure 1.1 shows these classifications for nonattainment counties in Pennsylvania as a result of the CAAA. Bucks, Chester, Delaware, Montgomery and Philadelphia counties are included in the Philadelphia nonattainment area which is classified as a severe ozone nonattainment area.. Health standards must be met in the area by 2005.

The nonattainment area, as shown in Figure 1.2, encompasses the entire Philadelphia CMSA, including counties in New Jersey, Delaware and Maryland. Other severe nonattainment areas in the Northeast include Baltimore, MD; most of New Jersey and the New York City multi-state area.

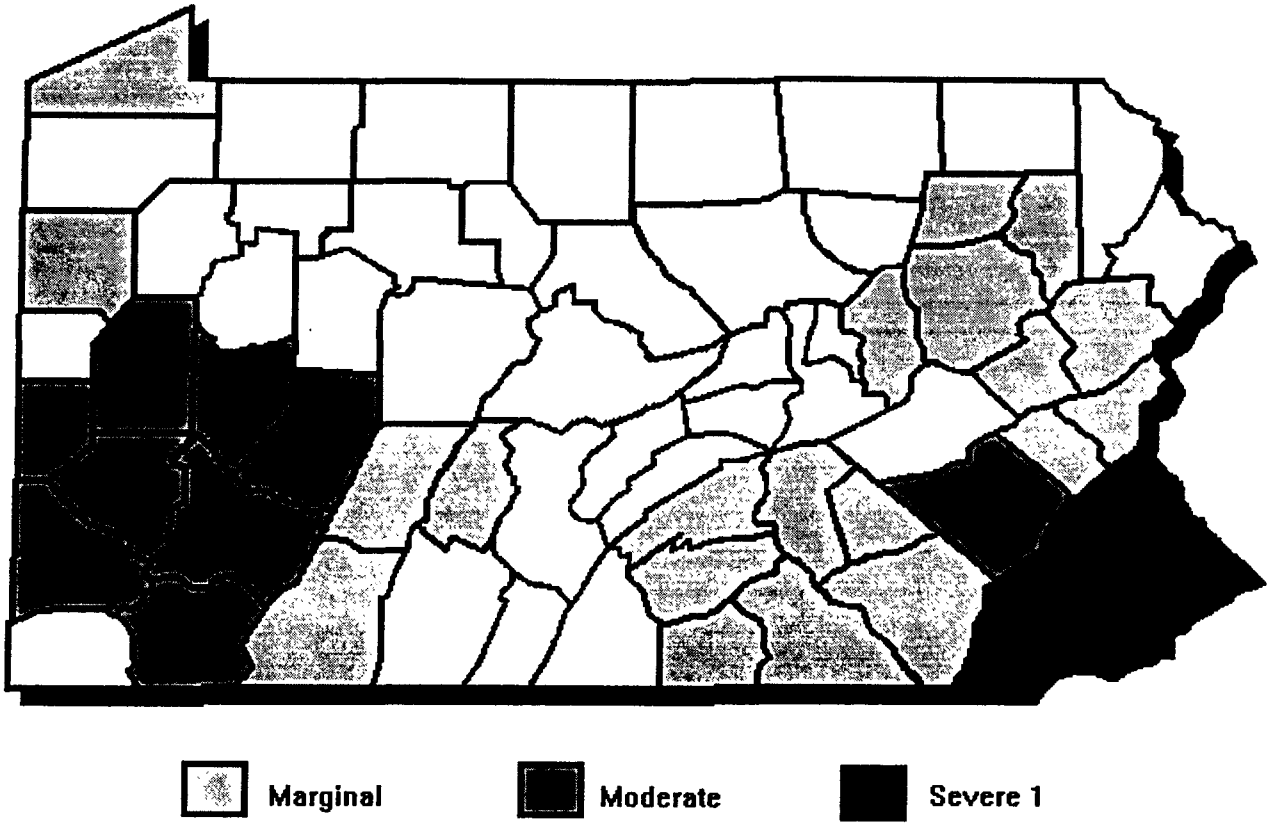


Figure 1.1 Pennsylvania Ozone Nonattainment Areas

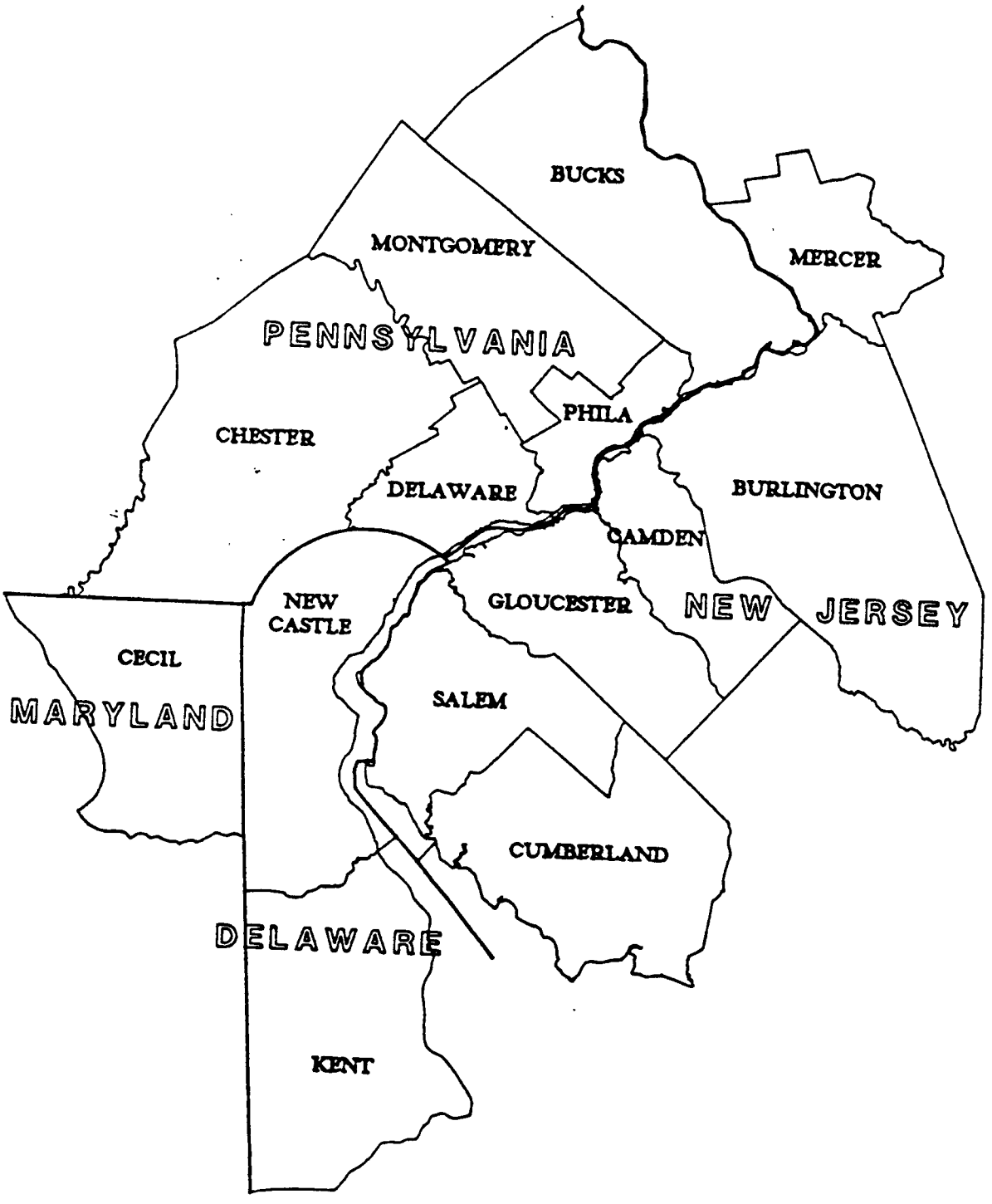


Figure 1.2 Philadelphia Interstate Ozone Nonattainment Area

1.1.2 SOURCES OF OZONE POLLUTION

Ozone precursors are created by both nature (biogenic sources) and human activity (anthropogenic sources). Biogenic sources come from natural chemical processes that take place during photosynthesis in trees and other organic sources. Anthropogenic ozone precursors come from many different sectors of society such as the generation of electricity, manufacturing, driving and consumer product use.

For purposes of air quality planning, anthropogenic sources are inventoried in these categories:

- Point sources (utilities, industries and other operations that emit more than a certain amount of VOC or NOx per year)
- Area sources (industrial/commercial sources too small or too numerous to be handled individually, solvent use, waste disposal and other categories)
- Nonroad engine sources (construction and agricultural equipment, recreational boats, lawnmowers and similar sources)
- Highway vehicle sources (cars, trucks and motorcycles)

1.2 SUMMARY OF ACTIONS TO DATE

A state's emission inventories, adopted regulations and programs, implementation plans and schedules, and permits for major air pollution sources comprise a State Implementation Plan (SIP).

Improvements in the SIP required by the CAAA are usually referred to as SIP revisions. A SIP revision may be a regulation which covers the entire Commonwealth or a required plan for a specific nonattainment area.

The CAAA require a SIP revision for the Philadelphia nonattainment area which ensures a 15 percent reduction in VOCs from 1990 levels by 1996 (referred to as the "15% plan"). This SIP revision was submitted to EPA on November 12, 1993, but was determined by EPA to be incomplete. A revised 15 percent plan has been developed dated October 22, 1994 and will be submitted to EPA shortly (copies are available upon request).

The 15 percent plan includes emission reductions from:

- Measures which were specifically mandated by the CAAA for the Philadelphia nonattainment area.
- Measures which are being developed and enforced by EPA and are applicable in the Philadelphia area.
- State and local initiatives needed to assure a 15 percent reduction.

All measures in the 15 percent plan which are in the form of regulations developed and enforced by the Commonwealth were developed according to administrative procedures. This procedure includes substantial public review and comment. These regulatory measures were also previously submitted to EPA as separate SIP revisions.

Emission reductions from 1990 to 1996 are expected from all categories of sources. The emission reductions include:

Point source measures

- Reasonably Available Control Technology (RACT) requirements on major stationary sources of VOCs and NOx
- Improvements in the enforcement of existing rules applicable to stationary sources (rule effectiveness)
- Emission reductions from source and process shutdowns

Area source measures

- Reductions from federal architectural and industrial maintenance coatings regulations as allowed by EPA guidance
- Stage II Vapor Recovery to reduce emissions from gasoline service station pumps
- Federal rules for hazardous waste treatment, storage and disposal facilities
- Federal rules for autobody refinishing
- Federal rules for reformulation of consumer products
- Commonwealth conversion to water base highway marking paint

Nonroad engine measures

- Federal rules for reformulated gasoline for nonroad engines

Highway vehicle measures

- Federal rules for reformulated gasoline for highway vehicles
- Federal motor vehicle emission standards already in effect
- Enhanced vehicle emission inspection and maintenance program
- Employer trip reduction

2.0 STRUCTURE OF THE PRESENT SIP REVISIONS

The CAAA require states to make two SIP submissions by November 15, 1994 for areas classified as serious and above, which includes the Philadelphia nonattainment area. These are:

1. **An emission reduction post-1996 Rate of Progress (ROP) plan.** A demonstration for the Southeast that VOCs and/or NOx will be reduced an additional 3 percent per year from 1990 levels during the period 1997-2005 or until the standard is attained, including adopted measures necessary to achieve those emission reductions; and
2. **An attainment plan.** A demonstration that the ozone health standard will be attained in the Southeast by November 15, 2005 including any additional adopted emission reduction measures needed for attainment.

The ROP plan addresses what is emitted into the air, while the attainment plan predicts ozone air quality that results from those emissions. Together, these submissions indicate how the area will move from reductions already projected through 1996 to clean air by 2005. These submissions are often referred to as "post-1996 SIPs".

2.1 RATE OF PROGRESS (ROP) PLAN FOR EMISSION REDUCTIONS.

2.1.1 METHODOLOGY

An emission reduction plan deals only with ozone precursors, that is, with the pollutants that are emitted directly. For ground-level ozone, those precursors are primarily VOCs and NOx.

A rate of progress plan involves:

- Determining a baseline of emissions from all sources.
- Determining an adjusted baseline of emissions due to CAAA required removal of certain control measures.
- Determining the number of tons to be reduced by a certain date by multiplying the required percentage (42 percent by 2005) by the number of tons in the adjusted baseline inventory.
- Calculating the number of tons that emissions will increase over the period due to growth (in number of sources, population increases or other appropriate factors).
- Adopting measures which will reduce emissions by the required percentage as well as offset growth.

- Calculating the emissions levels that will result from the application of those measures.
- Adopting contingency measures which would be effective without further state action in the event projected emission reductions are not achieved.

This methodology was used in the SIP revision demonstrating a 15 percent reduction in VOC by 1996 as well as the SIP revision for post-1996 emission reductions. For the years after 1996, the CAAA require an annual reduction of 3 percent of 1990 adjusted VOC emissions or the equivalent reduction in NOx emissions. However, those reductions are actually averaged over each consecutive 3 year period, a de facto requirement of 9 percent reduction every three years.

Therefore, the ROP plan due in 1994 must include a demonstration that an additional 9 percent reduction will occur no later than 1999, 2002 and 2005, for a total emission reduction requirement of 27 percent after 1996. Added to the 15 percent reduction required between 1990 and 1996, a total of 42 percent from adjusted 1990 levels is required.

The ROP plan must also include contingency measures that will take effect with minimal further action by the state or EPA if the state fails to reduce emissions by the required milestone or attainment dates. The contingency measures must be sufficient to secure an additional 3 percent reduction in ozone precursor emissions if needed.

2.1.2 SUMMARY OF PLAN

Required Reductions.
Table 2.1 displays the calculations the Department used to determine:

- The VOC level from which reductions are calculated (1990 Adjusted Base Year Inventory)
- VOC reductions required to meet the percentage reduction requirement (42 percent reduction)
- VOC level permissible in 2005 (2005 Target Level)
- Projected growth in VOC emissions ('90-05 growth); and
- The VOC level the Philadelphia area would experience in 2005 with no controls other than those already implemented in 1990 (2005 Projected Uncontrolled Inventory).

Figure 2.1 displays these calculations graphically.

Table 2.1 The Post 1996 Rate of Progress Plan

Source Category	1990 Baseline *tpsd*	FMVCP/ RVP *tpsd*	1990 Adjusted *tpsd*	42% Reduction *tpsd*	RACT Fix-ups *tpsd*	2005 Target Level *tpsd*	'90 - '05 Growth *tpsd*	2005 Uncontrolled *tpsd*
Point	155.73		155.73				26.34	182.07
Area	204.81		204.81				34.67	239.48
Nonroad	90.60		90.60				5.42	96.02
Highway Vehicle	188.17	45.81	142.36				-5.74	182.43
TOTAL	**639.31**	**45.81**	**593.50**	**249.27**	**0.84**	**343.39**	**60.69**	**700.00**

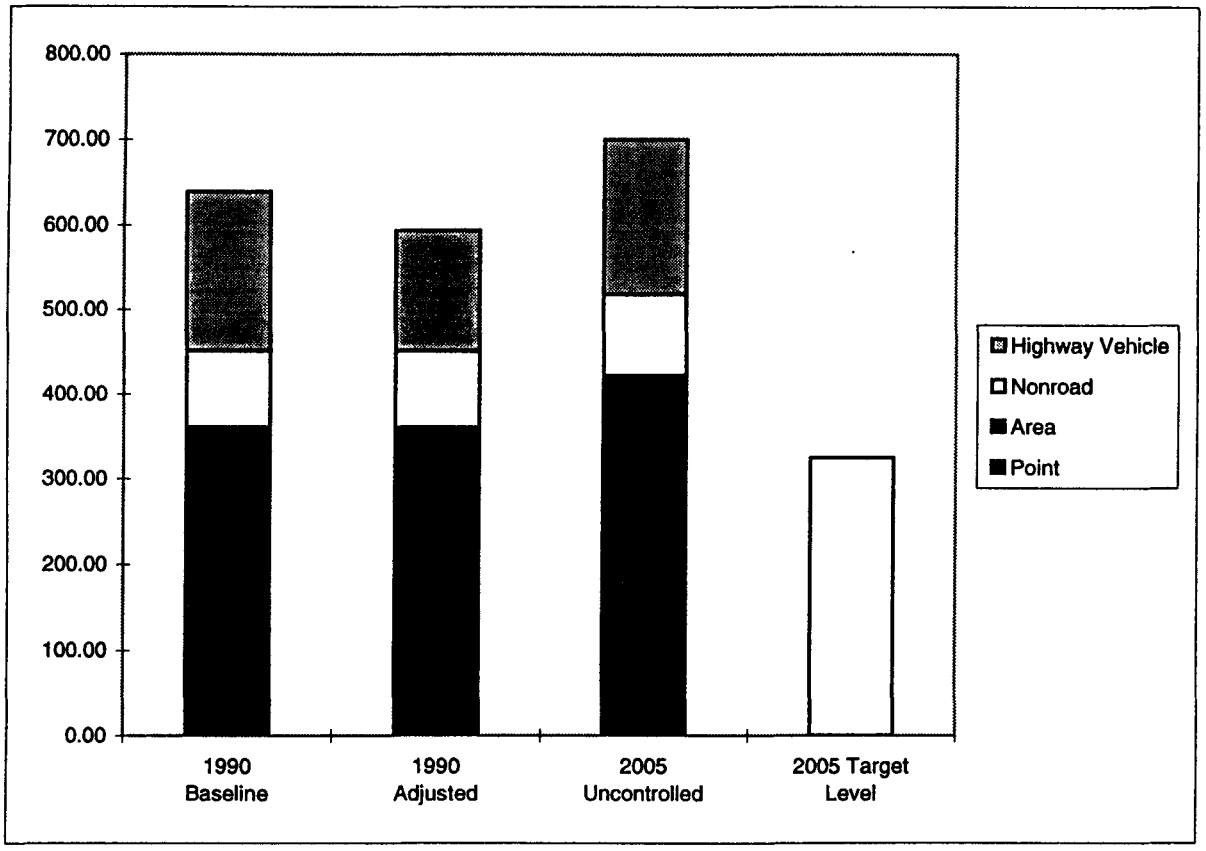


Figure 2.1 VOC Inventory Summary With the 2005 Target Level

Achieved reductions.
Table 2.2 summarizes the expected VOC reductions from control measures. EPA allows substitution of NOx reductions for VOC reductions at a ratio equal to the ratio of the 1990 VOC inventory to the 1990 NOx inventory. This ratio is 1.40:1. Therefore, a "VOC equivalent" ton of 1.40 is substituted for every actual ton of NOx reduced.

Table 2.3 summarizes the expected NOx reductions from control measures both in terms of actual NOx reductions and VOC equivalents.

The post-1996 ROP plan includes the calculation of reductions expected from control measures implemented between 1990 and 2005. The VOC control measures are the same as those listed in section 1.2 for the 15 percent ROP plan. NOx reductions are projected to be achieved by implementation of the adopted enhanced auto emissions inspection program and adoption of controls on large industrial/utility boilers.

Table 2.2 Expected VOC Reductions

Control Stratagy	tpsd
I/M 240 Program	81.38
Federal Reformulated Gasoline	38.54
FMVCP & Tier 1	7.68
Employee Trip Reduction (ETR)	1.00
Stage II Vapor Recovery	18.64
VOC RACT	1.86
Improved Rule Effectiveness	24.62
Federal AIM Regulations	6.35
Facility Shutdowns	3.88
Consumer Products	6.97
Autobody Refinishing	6.22
Traffic Line Painting	1.57
TSDF Controls	3.13
Total VOC Reductions	**201.84**

Table 2.3 Expected NOx Reductions

Control Stratagy	tpsd
Highway Vehicle Reductions	51.21
Facility Shutdowns	3.96
Industrial/Utility Boilers	86.78
Total NOx Reductions	**141.95**

2.2 OZONE ATTAINMENT PLAN

2.2.1 METHODOLOGY

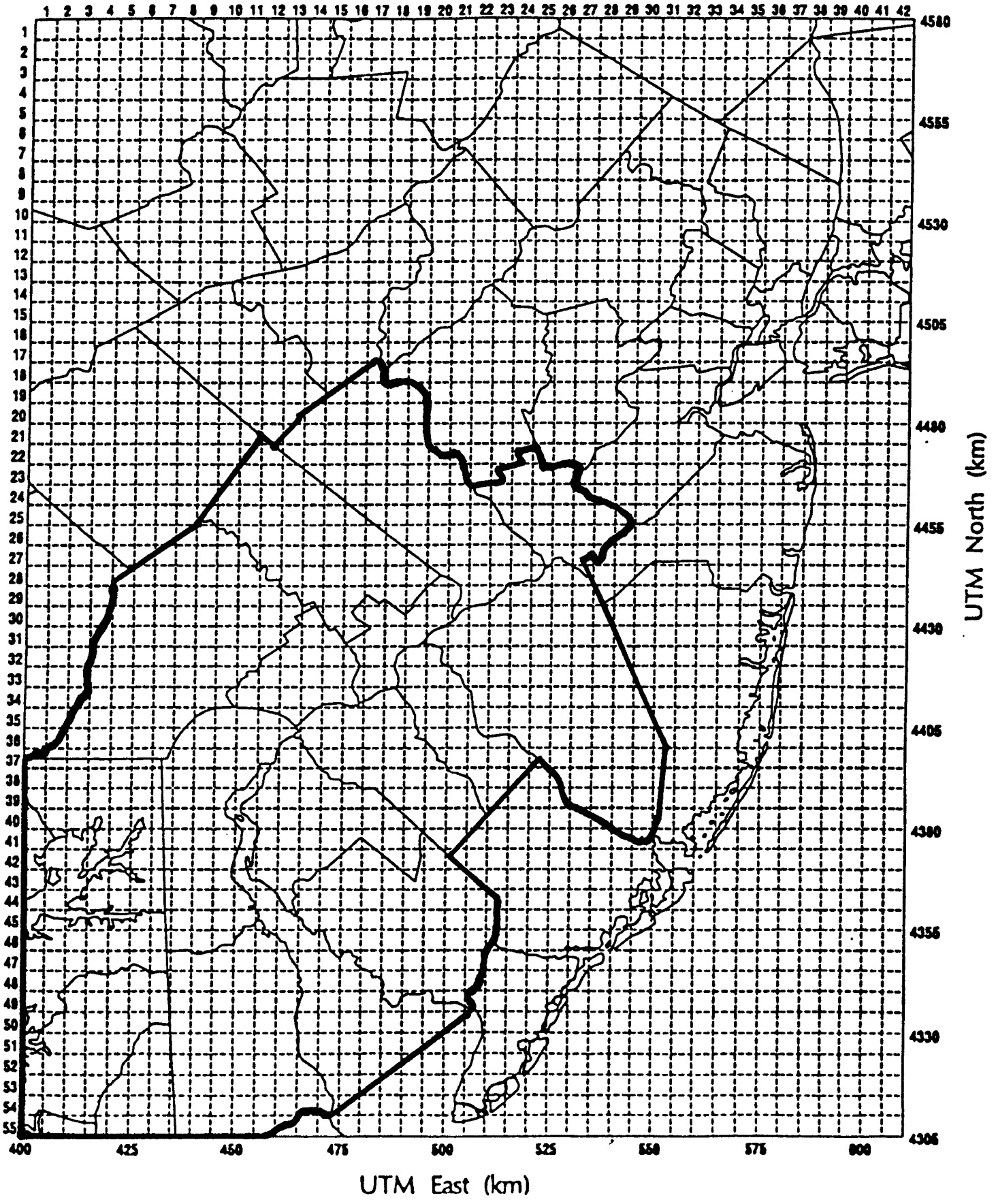
An attainment demonstration must show that the worst-case levels of ozone resulting from projected levels of ozone precursor emissions will meet health standards by the year specified in the CAAA. For Southeast Pennsylvania, this is 2005. Attainment demonstrations must include the results of complex computer photochemical oxidant models that predict ozone air quality levels from air pollution emissions and meteorological conditions. That is, the computer creates a model of the chemical reactions that take place in the air on a "typical summer day" over a specific geographic area.

The baseline emissions levels and the target emissions levels (after control strategies) developed in the emission reduction rate-of-progress plans are inputs to the attainment demonstration. If the measures identified in the 15 percent and post-1996 ROP plans are not sufficient to demonstrate attainment, states must adopt and include additional measures in their attainment demonstration.

Since the five-county Southeast nonattainment area is part of a multi-state nonattainment area, a joint modeling demonstration is required. However the emission reductions required in each state are identified in each states separate implementation plan. The model approved by EPA for this demonstration is the Urban Airshed Model (UAM). Figure 1.2 previously showed the multi-state nonattainment area. Figure 2.2 shows the entire area which is modeled (called the modeling domain). This is a larger area geographically than the nonattainment area itself so that the full extent of the Philadelphia ozone plume will be included.

In addition, regional (Northeast corridor) modeling must be completed in order to establish the current and projected quality of the air coming into the Philadelphia modeling domain from outside its boundaries. The model approved by EPA for this use is the Regional Oxidant Model (ROM). ROM will also be used to analyze the impact of regional strategies in achieving clean air throughout the Northeast.

Figure 2.2 Philadelphia Modeling Domain



2.2.2 STATUS REPORT

The following table indicates the status of the UAM modeling work for the Philadelphia nonattainment area.

Table 2.4 Status of UAM Modeling

STEP	STATUS
Establish protocol	Complete
Determine domain boundaries	Complete
Determine episode data collection methods	Complete
Select historical episodes	Complete
Acquire and pre-process data	Complete
Evaluate pre-processors using available data	Complete
Apply and evaluate modeling system	Nearing completion
Do diagnostic analyses of episodes	Nearing completion
Refine and correct inputs	Nearing completion
Do model performance evaluation	Nearing completion
Model projected attainment year	Start January 1995
Analyze attainment for existing measures	Early 1995
Iterative process until attainment is shown	Early 1995

The ROM results are only complete for some ozone episodes. The remaining ROM modeling should be completed in the next several months.

While modeling work is not complete, there are several conclusions which can be drawn from preliminary modeling results from both urban and regional protocols.

The nature of the ozone problem is regional, requiring regional solutions. The Philadelphia nonattainment area receives air pollution from upwind areas (inside and outside Pennsylvania); it also contributes pollution to downwind areas. Interrelationships are extensive and complex.

Reductions in both VOC and NOx will be needed to attain ozone health standards. VOC controls tend to be more effective in controlling the ozone peaks in the urban cores (such as the Philadelphia nonattainment area) while NOx controls may be more effective at controlling the regional extent of high ozone levels by reducing transport.

Current emission inventories show substantial contributions from both stationary and mobile sources. In particular, emission reductions from

mandated CAAA highway vehicle measures tend to be overtaken by the increase in the number of vehicles and miles traveled in later years. Strategies should therefore be balanced to include emission reduction measures from point, area, mobile and nonroad engine sources.

The strategies specifically mandated in the CAAA are effective but are not enough to provide for attainment. The map included as Figure 2.3 shows that which areas will still not meet health standards in 2005 even after all mandated control measures are applied based on projected data using the ROM model. Additional strategies will then be necessary to meet the CAAA attainment requirement and assure healthy air for all citizens.

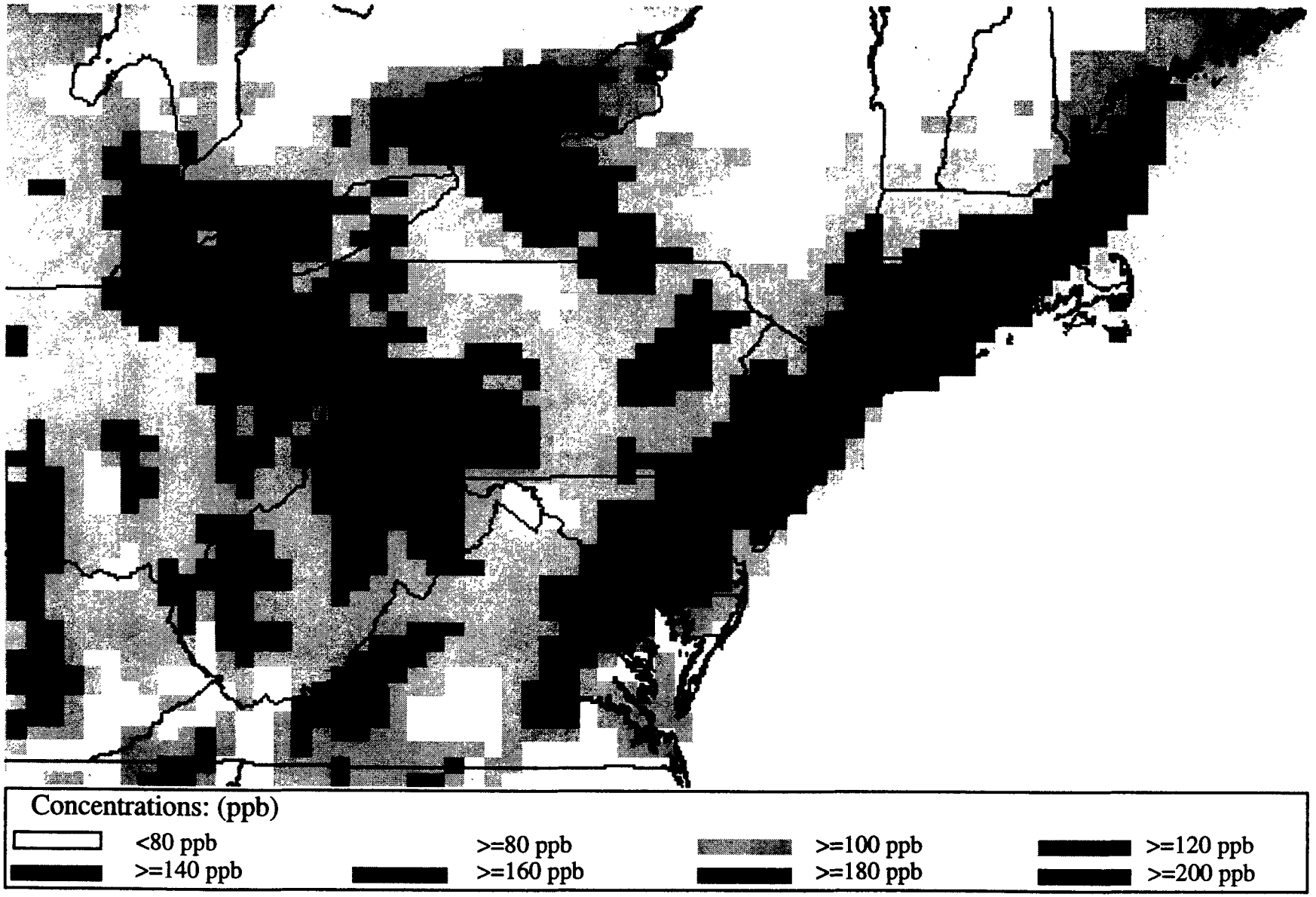


Figure III. 2005 Ozone Concentrations. (after mandated reductions.)

Two regional control measures are pending to address regional attainment:

- A Memorandum of Understanding (MOU) has been signed by OTC jurisdictions committing to adoption of regulations for further control of NOx from large utility and industrial boilers. A proposed Commonwealth regulation will be developed consistent with the MOU. (Reductions from this measure are included in this plan.)
- EPA will make a decision before the end of the year on the implementation of additional emission controls for new light duty motor vehicles, either in the Northeast states or an alternative program affecting all states outside of California. If, as a result of this decision, Pennsylvania is required to amend its SIP, a regulation would be developed. (Reductions from this measure are not included in this plan.)

2.3 PROCESS FOR ADOPTION OF CONTROL MEASURES

The Air Pollution Control Act (APCA) gives the Pennsylvania Department of Environmental Resources (DER) the responsibility to implement the Clean Air Act in the Commonwealth. In Pennsylvania, all regulatory changes go through a substantial public review and comment process. APCA and other state laws provide for review of air regulations as appropriate by several advisory committees, including the Air and Water Technical Advisory Committee, Citizens Advisory Committee and Small Business Assistance Program Compliance Advisory Committee.

Proposed regulations or a notice of their availability and public hearing announcements are published in the *Pennsylvania Bulletin* and are also advertised in local newspapers at least 30 days prior to public hearings. The record is open for at least 30 days after the hearing date for submission of written comments.

DER cannot adopt regulations independently. Regulations must be proposed and adopted by the Environmental Quality Board (EQB) as established by Pennsylvania law. The EQB is a 21-member board with representation from executive agencies, five citizen members from the Citizens Advisory Council, and two members from both House and Senate. After adoption as a final rulemaking by the EQB, the regulations must be approved by the Independent Regulatory Review Commission before they are published and effective.

The health departments of Allegheny and Philadelphia counties adopt and enforce their own local regulations which must be at least as stringent as the state and federal programs. While DER cooperates closely with them, it does not provide

direct supervision. The state does have general oversight authority under the APCA.

There are some measures for which Pennsylvania has or will include in SIP submissions which are adopted, administered and enforced directly and only by the federal government. These measures are those where state-by-state regulation would be inefficient and pose difficulties for the regulated industry. They include, for example, requirements for gasoline or diesel fuel, standards for new lawn mowers and other non-road engines, and standards for consumer products. Regulatory development for these measures follow federal regulatory procedures which also include public comment.

Any measures in addition to those already adopted by the Commonwealth which are determined to be necessary in order to attain health standards will be developed with the opportunity for public review and comment. This includes measures which are agreed to under a Memorandum of Understanding of the Ozone Transport Commission (OTC) or which result from a petition by the OTC to EPA and require state regulation.

2.4 EVALUATION, MID-COURSE CORRECTIONS AND MAINTENANCE

Pennsylvania must, in 1994, project the need for and adopt those measures necessary to meet emission reduction and attainment requirements through 2005. However, the law also provides for a process by which 1) these projections of emission reductions are compared with actual emissions and 2) the ozone attainment projections are compared with actual air quality.

1. *Periodic Emission Inventories.* Pennsylvania must submit inventories every three years to assure EPA that progress is being completed on achieving emission reductions. If emission reductions are not actually being made, contingency measures may be triggered without further state action. Inventories will be submitted for Southeast Pennsylvania for the years 1996 (to evaluate the 15 percent ROP plan), 1999, 2002 and 2005.

2. *Monitored air quality.* All demonstrations described thus far are projections using mathematical calculations and modeling. The CAAA also provide for air quality monitoring to assess whether an area has actually met the health standards. Air quality data for the most three recent years is used. For Southeast Pennsylvania, air quality monitoring data for the years 2003-2005 will determine whether the area has met its attainment goal.

3. *Midcourse Corrections.* States must adopt control measures for ROP and attainment now even though there are uncertainties associated with the tools used

to generate emission inventories and to model the relationship between future VOC/NOx emissions and ozone air quality. EPA is encouraging states to consider making mid-course corrections to their attainment demonstrations and rate-of-progress plans to take advantage of these improvements.

The CAAA not only requires areas to attain health standards but to demonstrate that the health standards can be maintained for a period of 12 years after the attainment date. A maintenance plan will be developed for the Philadelphia area after monitoring data confirms that standards have actually been met. Therefore, maintenance may be an important consideration for the selection of attainment measures, particularly those that are not effective until after the turn of the century.

3.0 PUBLIC HEARING SCHEDULE

Requirements for public process are detailed in 42 USCA 7410(a)(2) and 40 CFR 51.102(d). The public hearing for the 15 percent ROP plan submitted November 15, 1993 was held on December 22, 1993. The Comment/Response Document is available upon request. The public comment period for the revised 15 percent plan is from October 20, 1994 to December 29, 1994. The public hearing is scheduled for November 29, 1994.

The public comment period for these post-1996 SIP revisions extends from November 12, 1994 to January 11, 1995. The public hearing is scheduled for December 12, 1994. Both public hearings will be held at 1:00 pm at the Visitors Center, Independence National Historic Park, 3rd and Chestnut Streets, Philadelphia, PA.